

AMENDMENTS TO THE SPECIFICATION

Please replace paragraph [0015] with the following amended paragraph:

[0015] The invention includes a jet body, a water inlet, a channel within the jet body, a rotating discharge member, and a cap ~~formed with~~ having a number plurality of openings ~~positioned at different distances from the center of the cap~~. The jet body produces a high-pressure water stream that flows through the discharge member, causing the discharge member to rotate, and ~~discharge~~ discharges the jet water stream in a number of concentric patterns ~~that impinge on the openings~~. ~~The openings are formed in the cap so that the upstream intersection of the openings forms a series of ridges that divert the rotating water stream into the appropriate opening(s) without blocking it, or producing a backflow, and are aligned with the rotating discharge member to minimize pressure losses.~~ Together the rotation speed and the ~~opening design~~ plurality of openings produce the sensation of a number of concentric rings each having multiple pulsating water streams that are directed into the spa or tub.

Please replace paragraph [0032] with the following amended paragraph:

[0032] The invention, as shown in FIG. 1, relates to a low-pressure loss hydrotherapy jet system 40 that uses a single water supply 3 (not shown) and a single air intake 4 (not shown) to produce multiple concentric rings of ~~multiple simultaneously pulsating jets~~ water streams in a spa bath. As shown in FIG. 1 aerated water stream 5

enters discharge member 10, which has a major outlet conduit 17 and a minor outlet conduit 18. Jet Water stream 5 enters discharge member 10 and splits into jets subsidiary streams 6 and 7, which exit discharge member 10 through minor outlet conduit 18 and major outlet conduit 17 respectively. Jets Subsidiary streams 6 and 7 discharge in concentric patterns from discharge member 10. ~~These concentric pattern jets~~ The subsidiary streams 6 and 7 impinge a ~~series of rings~~ concentric arrangement of openings 28a-28g and 27a-27g respectively ~~molded within a stationary~~ disposed on cap 20. Jet Subsidiary stream 7 passing through openings 27a-27g generates a ring of major pulsating jets streams 8. Jet Subsidiary stream 6 passing through openings 28a-28g generates a ring of minor pulsating jets streams 9.

Please replace paragraph [0033] with the following amended paragraph:

[0033] In one embodiment the upstream ~~intersection of contours surrounding the openings~~ create a ridge creates ridges that ~~diverts~~ divert the rotating jet discharge member to the respective openings without generating substantial back flow. In one embodiment, when discharge member 10 receives a water supply having a pressure of at least 10 pounds per square inch (psi), discharge member 10 rotates fast enough that the user may have the sensation of major and minor jets pulsating streams 8 and 9 pulsating simultaneously. ~~Simultaneous jets~~ Minor pulsating stream 9 may appear to be concentric with ~~simultaneous jets~~ major pulsating stream 8. In one embodiment discharge member 10 may rotate at speeds of at least 500 revolutions per minute (rpm). In one

embodiment, the system has the added advantage that its design results in lower pressure losses.

Please replace paragraph [0035] with the following amended paragraph:

[0035] As shown in FIG. 2 major outlet conduit 17 diverts aerated water stream 5 away from the longitudinal axis of water stream 5, and forms discharge subsidiary stream 7. In one embodiment, discharge subsidiary stream 7 may impart a rotational moment to discharge member 10. Minor outlet conduit 18 also deflects aerated water stream 5 away from its longitudinal axis forming discharge subsidiary stream 6, but does not divert it as far away as major outlet conduit 17. In one embodiment, minor discharge subsidiary stream 6 may impart a rotational moment to discharge member 10.

Please replace paragraph [0036] with the following amended paragraph:

[0036] Channel 31, in FIG. 2, receives water supply 3 flowing from ~~conduit~~ inlet 32 through exit port 33. Exit port 33, whose axis is normal to that of Channel 31, constricts the flow of water supply 3 and provides it to ~~conduit~~ inlet 32. Attached to exit port 33, at its upstream end, is a ~~water-jet~~ venturi sleeve 30 that houses a venturi 34. ~~Jet 30 is used to produce a high-pressure water stream for the system.~~ Venturi 34 has an upstream section 35 that tapers down to its smallest diameter at throat 36. At throat 36, venturi 34 expands in diameter forming an aft section 37. Air intake 4 enters through air conduit 45. Aft of throat 36, in section 37, are located a series of air openings 39 used

to entrain air supply 4 to aerate the water flowing through venturi 34. In this manner, air intake 4 is entrained into water supply 3 forming aerated water stream 5.

Please replace paragraph [0037] with the following amended paragraph:

[0037] In one embodiment, as shown in FIG. 2, major outlet conduit 17 diverts part of aerated water stream 5 into diverted major outlet conduit aerated water stream 7. Diverted major outlet conduit aerated water stream 7 leaves discharge member 10 through major outlet conduit 17. Minor outlet conduit 18 diverts part of aerated water stream 5 into diverted the minor outlet conduit 18 ~~aerated water stream 6~~. ~~Diverted minor outlet conduit aerated water~~ Subsidiary stream 6 leaves discharge member 10 through minor outlet conduit 18. Major and minor aerated ~~flow~~ subsidiary streams 7 and 6 exiting discharge member 10 thru major outlet conduit 17 and minor outlet conduit 18 respectively encounter openings 27a-27g and 28a-28g respectively. In FIG. 2, aerated water stream 5 exits discharge member 10 as major ~~simultaneously pulsating jet~~ subsidiary stream 7 thru major ring opening 27b, and minor ~~simultaneously pulsating jet~~ subsidiary stream 6 thru minor ring opening 28e.

Please replace paragraph [0038] with the following amended paragraph:

[0038] Discharge member 10 can be seen just up stream of cap 20. The cross section of major opening 27b may be seen in cap 20. A cross section of minor opening 28e may also be seen in cap 20. FIG. 2 shows major outlet

conduit 17 lining up with major ring opening 27b allowing major outlet conduit aerated water stream 7 to exit double pulsating hydrotherapy jet unit 40. FIG. 2 also shows minor outlet conduit 18 aligning up with minor ring opening 28e permitting ~~minor outlet conduit aerated water~~ subsidiary stream 6 to exit double pulsating hydrotherapy jet unit 40.

Please replace paragraph [0041] with the following amended paragraph:

[0041] As discharge member 10 rotates around its longitudinal axis, major outlet conduit 17 sweeps consecutively through major openings 27a to 27g. As major outlet conduit 17 sweeps through an opening 27a-27g in cap 20, ~~diverted aerated water~~ subsidiary stream 7 passes through said opening creating ~~a pulse of aerated water subsidiary~~ major pulsating stream 8 (shown in FIG. 1).

Please replace paragraph [0042] with the following amended paragraph:

[0042] As discharge member 10 rotates around its longitudinal axis, minor outlet conduit 18 sweeps consecutively through minor openings 28a-28g. As minor outlet conduit 18 sweeps through an opening 28a-28g in cap 20, ~~diverted aerated water~~ subsidiary stream 6 passes through said opening creating ~~a pulse of aerated water~~ minor pulsating stream 9 (shown in FIG. 1).

Please replace paragraph [0043] with the following amended paragraph:

[0043] As may be seen in FIG. 2, in one embodiment major opening 27b may be aligned with major outlet conduit 17, and thus does not substantially impede the flow of ~~water~~ subsidiary stream 7 through major outlet conduit 17. In one embodiment, all openings 27a-27g may be aligned with major outlet conduit 17 as opening 27b is shown here. In one embodiment minor opening 28e may be aligned with minor outlet conduit 18, and thus opening 28e does not interfere substantially with the flow of water out of minor outlet conduit 18. In one embodiment, all openings 28a-28g may be aligned with minor outlet conduit 18 as opening 28e is shown here.

Please replace paragraph [0046] with the following amended paragraph:

[0046] In one embodiment discharge member 10 has a rotational axis 11 with the two linear water outlet conduits 17 and 18 passing through it. Major outlet conduit 17 has a longitudinal axis 13 that is coplanar with axis 11. Minor outlet conduit 18 has a longitudinal axis 12 that is coplanar with axis 11. Major outlet conduit's 17 longitudinal axis 13, and minor outlet conduit's 18 longitudinal axis 12 are orientated at angles α and β respectively to axis 11 of discharge member 10. In one embodiment α may be greater than 37 degrees, and β may be greater than 21 degrees. In another embodiment ~~axes one or both of axes 12 and 13 are~~ further offset by an angle γ ~~(not shown as shown in FIG. 3) to from a non-intersecting orientation to rotational axis 11~~ in a direction normal to offsets defined by angles α and β to provide a turning moment to discharge member 10 in response to a jet flow. Jet flows Subsidiary streams 6 and 7 exiting rotational member 10

trace out concentric patterns, as discharge member 10 rotates, which may be perceived as solid rings of water. In one embodiment angle γ may be approximately 6 degrees.

Please replace paragraph [0048] with the following amended paragraph:

[0048] FIG. 5 shows double pulsating hydrotherapy jet unit 40. Cap 20 may be placed within rotating scallop plate 49. Scallop 49a on rotating scallop plate 49 allow the reduction of the flow of water supply 3 to double pulsating hydrotherapy jet unit 40 by rotating discharge member carrier 55 to occlude a portion of water ~~conduit~~ inlet 32 as shown in FIG. 2.

Please replace paragraph [0054] with the following amended paragraph:

[0054] As is shown in FIG. 10a, upstream of openings 27a through 27g at the intersection of the openings are a series of ~~ridges~~ raised contours 25 between the openings. In one embodiment the contours 25 form ridges that divert water provided from conduit 17 into one or more of openings 27a through 27g. The ridges 25 act to cut the water, diverting it into the openings. The cutting action allows the water to flow into openings without producing substantial back flow as may be the case if the surfaces between the openings had no ridges. Similar ~~ridges~~ raised contours 24 may be seen ~~at the intersection of between~~ openings 28a through 28g that divert water provided from conduit 18 into one or more of bore holes 28a through 28g, thus reducing backflow ~~similar to ridges 25~~. The ~~ridges~~ contours 24, 25 can have many different shapes and sizes. ~~and in some embodiments all or some of the ridges~~

~~can be provided as knife like edges. In other
embodiments, however, all or some of the ridges can have
a flat surface on top. In still other embodiments
according to the present invention, all or some of the
ridges can be shapes, such as U shaped, V shaped or W-
shaped.~~

Please replace paragraph [0057] with the following
amended paragraph:

[0057] Mechanical mount retaining ring 60 is placed into
Housing 44 to hold outer bearing sleeve 55 in a fixed
position. ~~Side wall channel~~ Exit port 33 on outer
bearing sleeve 55 permits water from water ~~channel inlet~~
32 to enter the interior of double pulsating hydrotherapy
jet unit 40. Discharge member carrier outer sleeve 72
permits attachment to rotating scallop plate 49. Locking
feature 61 locks and makes secure the attachment of
discharge member carrier 72 to rotating scallop plate 49.